

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/008234

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C12N15/86 C12N7/00 C12N5/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data, PAJ, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>MESSERLE K ET AL: "NIH/3T3 CELLS TRANSFORMED WITH THE ACTIVATED ERBB-2 ONCOGENE CAN BE PHENOTYPICALLY REVERTED BY A KINASE DEFICIENT, DOMINANT NEGATIVE ERBB-2 VARIANT"</p> <p>MOLECULAR AND CELLULAR ENDOCRINOLOGY, AMSTERDAM, NL, vol. 105, no. 1, October 1994 (1994-10), pages 1-10, XP000867023</p> <p>ISSN: 0303-7207</p> <p>the whole document</p> <p style="text-align: center;">----- -/--</p>	1-24

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *S* document member of the same patent family

Date of the actual completion of the international search

20 December 2004

Date of mailing of the international search report

04/01/2005

Name and mailing address of the ISA

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International Application No
PCT/EP2004/008234

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DISBROW G L ET AL: "Codon optimization of the HPV-16 E5 gene enhances protein expression" VIROLOGY, ACADEMIC PRESS, ORLANDO, US, vol. 311, no. 1, 20 June 2003 (2003-06-20), pages 105-114, XP004432849 ISSN: 0042-6822 abstract	1-24
Y	LEDER C ET AL: "Enhancement of capsid gene expression: preparing the human papillomavirus type 16 major structural gene L1 for DNA vaccination purposes" JOURNAL OF VIROLOGY, THE AMERICAN SOCIETY FOR MICROBIOLOGY, US, vol. 75, no. 19, October 2001 (2001-10), pages 9201-9209, XP002202893 ISSN: 0022-538X abstract	1-24
A	NAKAMURA YASUKAZU ET AL: "Codon usage tabulated from the international DNA sequence databases: Its status 1999" NUCLEIC ACIDS RESEARCH, vol. 27, no. 1, 1 January 1999 (1999-01-01), page 292, XP002310066 ISSN: 0305-1048	
T	& "Codon Usage Database" Retrieved from the Internet: URL: http://www.kazusa.or.jp/codon/ 'retrieved on 2004-12-10'	
A	IKEMURA T: "Codon usage and tRNA content in unicellular and multicellular organisms." MOLECULAR BIOLOGY AND EVOLUTION. JAN 1985, vol. 2, no. 1, January 1985 (1985-01), pages 13-34, XP009041469 ISSN: 0737-4038	
A	BEN-LEVY RACHEL ET AL: "A single autophosphorylation site confers oncogenicity to the Neu/ErbB-2 receptor and enables coupling to the MAP kinase pathway" EMBO (EUROPEAN MOLECULAR BIOLOGY ORGANIZATION) JOURNAL, vol. 13, no. 14, 1994, pages 3302-3311, XP001204503 ISSN: 0261-4189	
A	US 6 127 344 A (AMICI AUGUSTO ET AL) 3 October 2000 (2000-10-03)	
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	WO 2004/041065 A (TERABE MASAKE ; SAKAI YOSHIO (JP); PARK JONG-MYUN (KR); MORRIS JOHN J) 21 May 2004 (2004-05-21)	
A	US 5 846 538 A (DISIS MARY L ET AL) 8 December 1998 (1998-12-08)	
A	DISIS M L ET AL: "HER-2/NEU PROTEIN: A TARGET FOR ANTIGEN-SPECIFIC IMMUNOTHERAPY OF HUMAN CANCER" ADVANCES IN CANCER RESEARCH, ACADEMIC PRESS, LONDON, GB, vol. 71, 1991, pages 343-371, XP000982776 ISSN: 0065-230X	
A	KING C R ET AL: "AMPLIFICATION OF A NOVEL V-ERBB-RELATED GENE IN A HUMAN MAMMARY CARCINOMA" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, US, vol. 229, no. 4717, 1985, pages 974-976, XP009030511 ISSN: 0036-8075	
A	YARDEN YOSEF: "Biology of HER2 and its importance in breast cancer" ONCOLOGY (BASEL), vol. 61, no. Suppl 2, October 2001 (2001-10), pages 1-13, XP009041443 ISSN: 0030-2414	
A	TADASHI YAMAMOTO ET AL: "Similarity of protein encoded by the human c-erb-B-2 gene to epidermal growth factor receptor" NATURE, MACMILLAN JOURNALS LTD. LONDON, GB, vol. 319, no. 6050, 22 January 1986 (1986-01-22), pages 230-234, XP002095983 ISSN: 0028-0836 -& DATABASE UniProt 25 January 2005 (2005-01-25), "Receptor tyrosine-protein kinase erb-2 precursor (EC 2.7.1.112) (p185erb2) (C-erb-2) (NEU proto-oncogene) (Tyrosin kinase-type cell surface receptor HER2) (MLN 19)" XP002310070 retrieved from UNIPROT Database accession no. P04626 abstract	

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T	<p>GALLO PASQUALE ET AL: "Xenogeneic immunization in mice using HER2 DNA delivered by an adenoviral vector." INTERNATIONAL JOURNAL OF CANCER. JOURNAL INTERNATIONAL DU CANCER. 1 JAN 2005, vol. 113, no. 1, 25 August 2004 (2004-08-25), pages 67-77, XP002310069 ISSN: 0020-7136</p>	

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Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 13-17 and 22-24 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6127344	A	03-10-2000	IT MI950676 A1	04-10-1996
			AU 710979 B2	30-09-1999
			AU 5399196 A	23-10-1996
			CA 2217491 A1	10-10-1996
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			US 5876712 A	02-03-1999
			US 5869445 A	09-02-1999
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